

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/008719

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl<sup>7</sup> G01L1/22, G01L5/16, G01P15/12, G01P15/18

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> G01L1/22, G01L5/16, G01P15/12, G01P15/18

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

|                           |           |                            |           |
|---------------------------|-----------|----------------------------|-----------|
| Jitsuyo Shinan Koho       | 1922-1996 | Jitsuyo Shinan Toroku Koho | 1996-2004 |
| Kokai Jitsuyo Shinan Koho | 1971-2004 | Toroku Jitsuyo Shinan Koho | 1994-2004 |

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|-----------|---|-----------------------|
| X<br>Y    | JP 11-132874 A (Kawatetsu Advantech Co., Ltd.),<br>21 May, 1999 (21.05.99),<br>Full text; all drawings<br>& US 6005199 A<br>Full text; all drawings           | 1, 3-4<br>5-12        |
| X         | JP 5-52447 B2 (Shimadzu Corp.),<br>05 August, 1993 (05.08.93),<br>Page 2, left column, line 23 to right column,<br>line 22; Figs. 1, 3 to 6<br>(Family: none) | 2                     |
|           |   |                       |

 Further documents are listed in the continuation of Box C. See patent family annex.

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| * Special categories of cited documents: |  |
| "A"                                      | document defining the general state of the art which is not considered to be of particular relevance   |
| "E"                                      | earlier application or patent but published on or after the international filing date  |
| "L"                                      | document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  |
| "O"                                      | document referring to an oral disclosure, use, exhibition or other means   |
| "P"                                      | document published prior to the international filing date but later than the priority date claimed   |
| "T"                                      | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  |
| "X"                                      | document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone   |
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| "&"                                      | document member of the same patent family  |

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| Date of the actual completion of the international search<br>06 September, 2004 (06.09.04) | Date of mailing of the international search report<br>28 September, 2004 (28.09.04) |
| Name and mailing address of the ISA/<br>Japanese Patent Office                             | Authorized officer  |
| Facsimile No.  | Telephone No.   |

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| International application No.<br>PCT/JP2004/008719 |
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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|-----------|---|-----------------------|
| Y         | JP 2581820 B2 (Kabushiki Kaisha Fuji Denki Sogo Kenkyusho),<br>21 November, 1996 (21.11.96),<br>Page 4, column 7, line 46 to column 8, line 45;<br>Figs. 3 to 6<br>(Family: none)   | 5-12                  |
| Y         | JP 54-9074 B2 (Datex Oy Insinööritoimisto),<br>20 April, 1979 (20.04.79),<br>Full text; all drawings<br>& GB 1284055 A<br>Full text; all drawings<br>& DE 2119193 B & FR 2089990 A<br>& FI 45099 B & CA 938810 A<br>& SE 376799 B | 11                    |